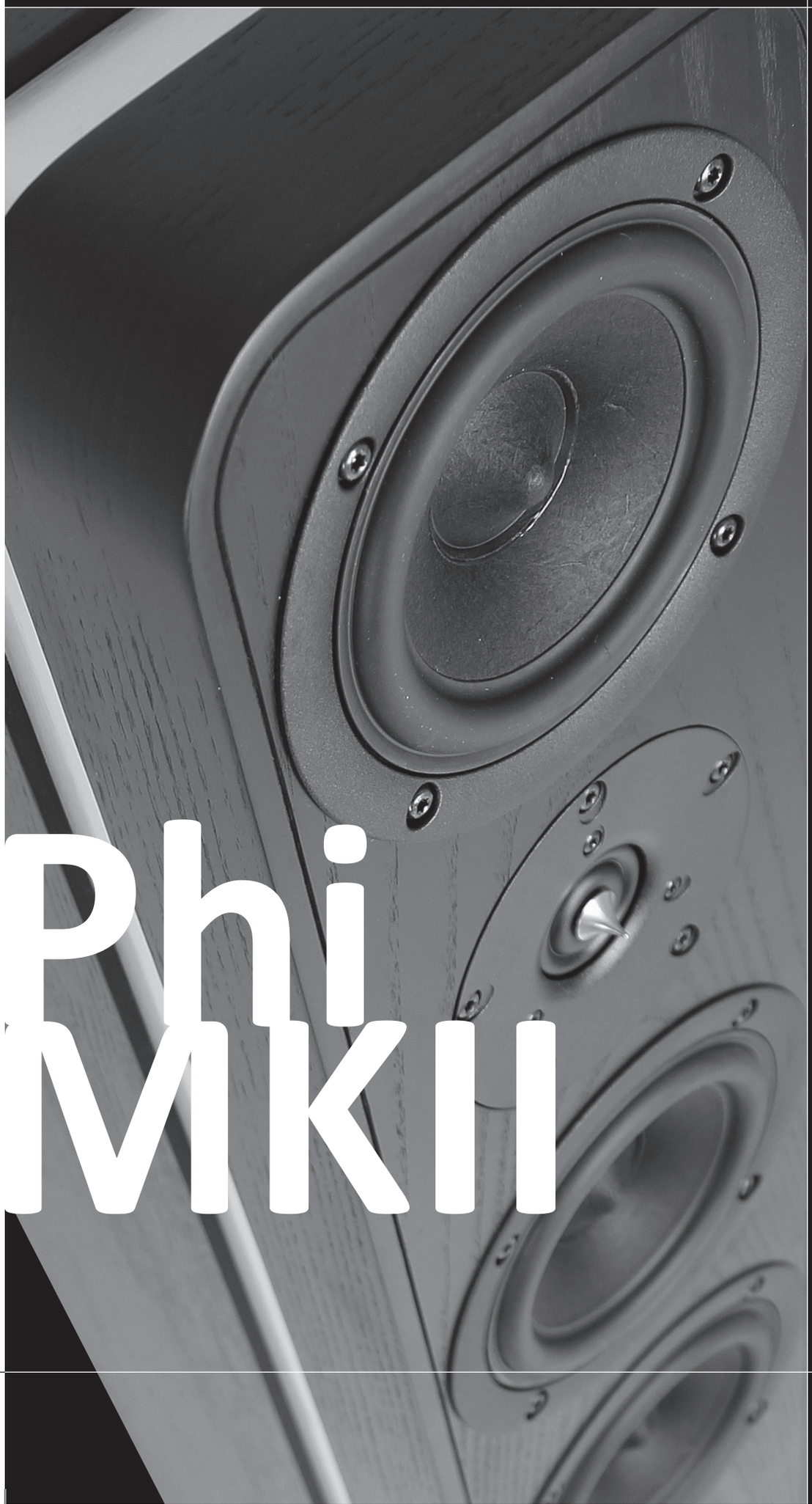
EXTRAORDINARY SOUND DESIGNS FOR EXTRAORDINARY PEOPLE



Phi MKII

User Manual

Phi3, Phi5 & Phi6 MKII Speakers

GamuT®

www.gamutaudio.com

INTRODUCTION

The materials and constructions chosen for a GamuT product will make it last a life time and give you years of musical enjoyment. **Thank you for choosing a GamuT product**.

With an optimized production setup we can now offer this exquisite, strong, and inert enclosure solution for music lover to enjoy outstanding performance from real world priced speakers.

Having the new improved sonic foundation from the laminated form pressed enclosure; we have done our utmost to optimize other components used, to obtain an absolute maximum of performance.

We designed a new woofer and midrange driver based on a wood fiber cone structure, using a size optimized inverted spike dust cap, a low distorting magnet system using aluminum shorting rings, and a dynamic linear suspension. We finished off the performance by hand doping the cones with our proprietary organic leather oil treatment, first used for our El Superiores mid/woofer drivers.

Our tweeter is our well known dual ring tweeter, now taken to new heights by an optimized version of the NRLI network.

The NRLI network is assuring seem less integration between the woofers, midrange and tweeter, by creating a Non-Resonant perfectly Linked Impulse reproduction. NRLI

We also optimized the internal acoustics. The new less resonant character of the enclosure lets us minimize the use of acoustic damping to obtain a higher level of impact and dynamic accuracy, as well as improving the quality and level of bass reproduction.

The Combination of all of the advantages from the new enclosure, the new higher performing bass/mid drivers, the optimized NRLI network and the new impulse accurate internal acoustics, lifts the performance of the new Phi's way above what can be expected in this size and price range, and gives the Phi's a performance level belonging to the top of audiophile musical speakers.

SETTING UP

A speaker is an acoustic instrument; it will work with your room and generate a combined character. To minimize the negative influence from the room and optimize the linearity of the combined reproduction please follow the simple guide lines below.

To fine trim the performance, go to the advanced setup section. Distances are measured from the Tweeter.

Minimum recommendations in a regular setup
Distance to side walls: **4' or 1,2m**
Distance to the rear wall: **3' 4" or 1,0m**

With the "Narrow room" setup (excessive toe-in where axis meet in front of the listening position)
Distance to side walls: **2' 4"**
Distance to the rear wall: **4'or 1,2m**

With both the regular setup and the Narrow room setup, position you speaker a minimum of 10' or 3m apart and the listening position a minimum of 10' or 3m from the speaker.

With a regular setup point the speaker straight forward

With the Narrow room setup (where the 3' clearance to the side room cannot be achieved, requires a 16' wall distance) toe-in the speakers so that the axis of the tweeter is crossing app. 2'-3' or 60-90 cm in front of the listening position

Adjust the spikes so that a line starting from the top point of the Midrange (the driver below the tweeter), and running in parallel with the top of the speaker, is pointing to your ear height in the listening position.

If trimming of the bass, midrange or tweeter level is needed; you can adjust the Bass balance by changing the position of the speaker, the midrange character by adjusting the tilt of the speaker, and the tweeter level by adjusting the toe-in. Visit the advanced setup section for instructions or e-mail us at: **info@gamutaudio.com**

Spike adjustment: The new Spike system is designed to penetrate heavy carpeting, by using a sharply shaped center Spike. The Spike is locked by the outer Knob. Loosen the knob counter clockwise to allow adjustment of the Spike. Use an Allen key (Unbrako), size 6 mm, to adjust the spike. Adjust the spikes to have an even weight distribution (same slight resistance when turning the key) to eliminate movement of the speaker. When the Speaker is positioned in its desired position turn the outer Knobs Clockwise by hand, until they lock, to lock the spikes.

CONNECTIONS

The newly designed proprietary GamuT Terminals are made to allow the use of 3 different connections: **8mm spades, 4 mm banana plugs or stripped wire**. Connect your speaker cable to the speaker before connecting to the amplifier.

- **When using Banana plugs** insert the plugs in the center hole, make sure the fit is as tight as possible.
- **When using a Spade**, loosen the desired terminal nut and insert the spade between the terminal and the bracket.
- **When using a stripped wire** remove the terminal nut and insert the stripped wire into it. Position the stripped wire onto the conical part of the terminal base and re-position the terminal nut onto the thread and turn the nut until it locks the wire.

OPTIMIZING THE SOUND

1. RUNNING IN (BREAKING IN)

Speakers are electro mechanical devices. As any mechanical device a speaker needs running in before it reaches its optimum performance level. During the development phase we have carefully aligned and trimmed all components to have a perfect balance when fully run in, so please allow for the speaker to have a run in period of up to 200 Hours of music playing and an ageing of minimum 6 months before they reach their optimum performance. During the run in period the final positioning of the speaker cannot be determined as the bass character will change. Please also allow time for the mid and tweeter character to fall into place.

2. ADVANCED SETUP

- **Positioning; Optimizing the Bass character & balance:** Please go to the "Setting Up" section to find the minimum distances to walls etc. and choose your way of setting up: **"Regular"** or **"The Narrow Room" setup**

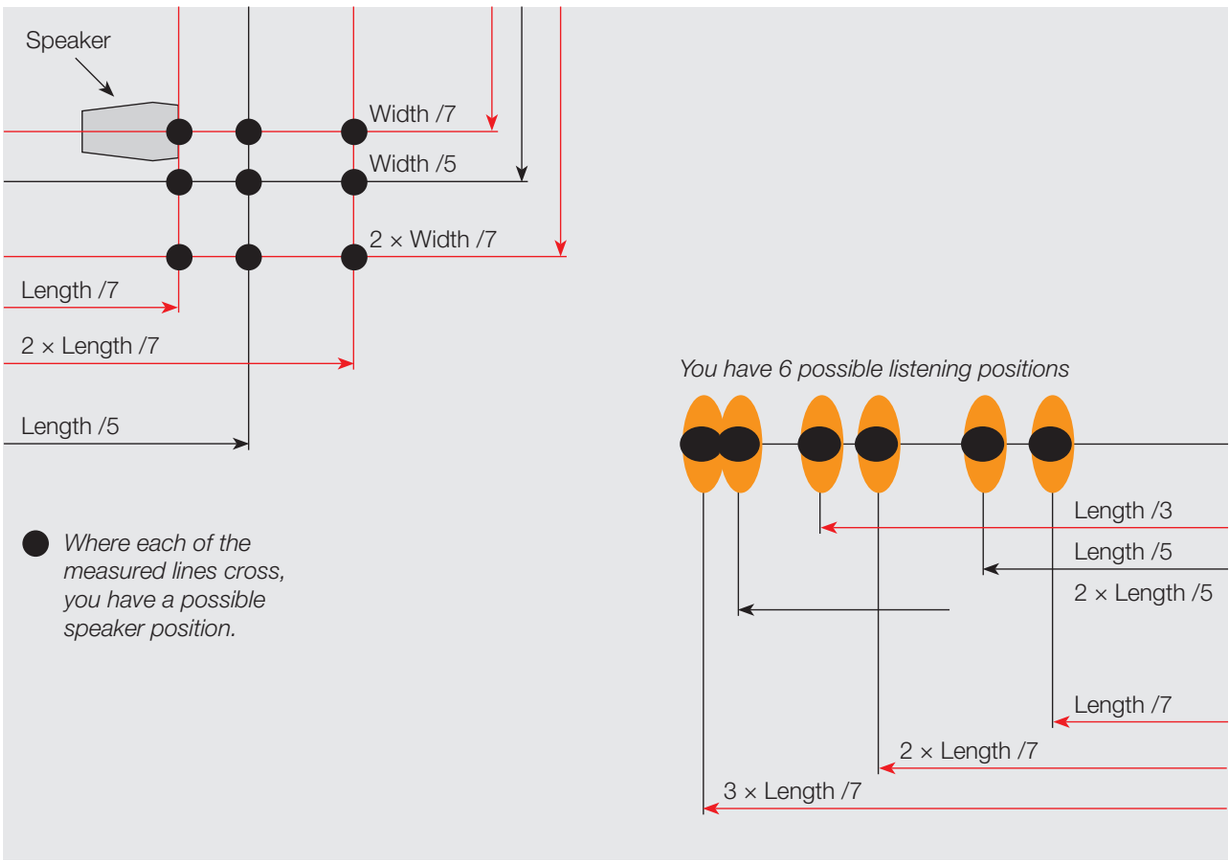
- **A room has standing modes of energy**. The most harmful modes are positioned in multiplications of 1/2 fractions of the room dimensions, I.e. the position where the room length, width and height is divided with 2, 4, 8, 16 etc. **The obvious solution** is to avoid these positions by positioning the speaker in un-even fractions of the room dimensions.

- **The preferred divisions** of room dimensions are: 1/3, 2/7, 1/5 & 1/7 see the diagram below.

Example							
	Measurements	Results					
		Divided by 7	Divided by 5	2 × divided by 7	Divided by 3	2 × divided by 5	3 × divided by 7
Example width	5 meters	0,72	1,0	1,44	1,67	2,0	2,16
Example length	7meters	1,0	1,4	2,0	2,33	2,8	3,0

Your measurements							
	Measurements	Results					
		Divided by 7	Divided by 5	2 × divided by 7	Divided by 3	2 × divided by 5	3 × divided by 7
Your measured width – write here							
Your measured length – write here							

- **The process to calculate** is to draw your room with measured dimensions and draw lines with the specified divisions of the dimensions both length and width wise. Choose the positions that exceed the minimum requirements for clearance to the walls and allows the minimum spacing between the speakers.



- **Tilting: Optimizing the midrange character**
  Use the guidelines from the "Setting Up" section to adjust the tilt of the speakers. Adjustments of the tilt of the speaker will have the following sonic effect:

  By tilting the speaker towards the front, i.e. leaning more forward, the midrange character will be more aggressive or "forward".

  By tilting the speaker towards the back, i.e. leaning more backwards, the speaker will be less aggressive or "laid back". Fine trim the speaker tilt to optimize the midrange character.

OPTIMIZING THE SOUND

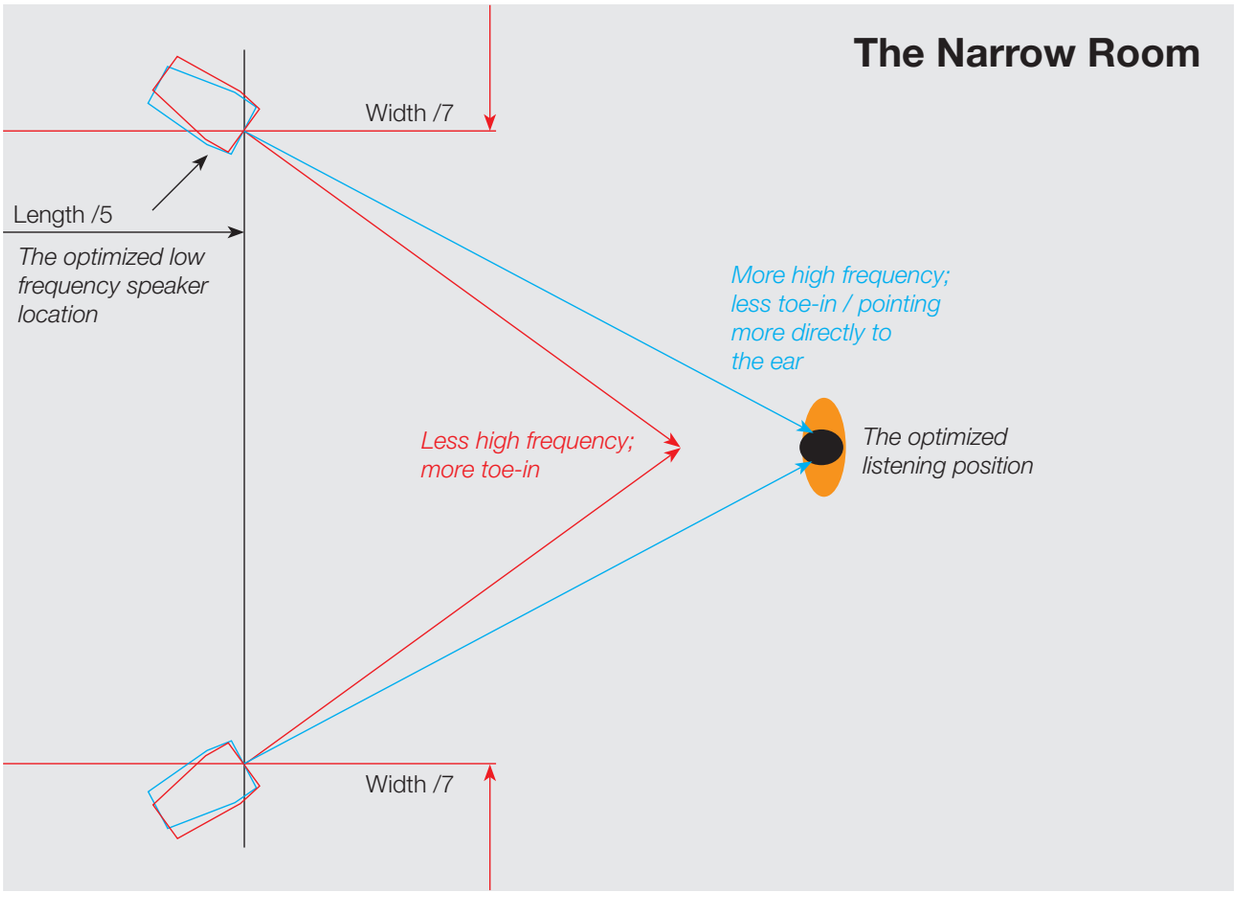
- **Toe-in: Optimizing the tweeter character**
  You have chosen to setup using the “Regular” or the “Narrow Room” setup. By adjusting the toe-in the tweeter level and character can be optimized.

- **In a “perfect” acoustic environment** our speakers are designed to be listened to app 20-25 degrees off axis, which corresponds to a normal setup with the speakers close to pointing straight. By using toe-in the tweeter will point more towards the listening position thereby increasing its level, as the highest level from the tweeter is obtained directly on axis.

- **In the Regular Setup**, with the tweeter axis pointing close to straight, use toe-in to increase the tweeter levels, and use toe-out to decrease the tweeter levels

- **In the Narrow Room Setup**, The tweeter axis is toed-in to meet in front of the listening position. To increase the tweeter levels toe-out the speakers, and to decrease the tweeter levels toe-in the speakers.

Please note that the increase/decrease in toe when using this solution is more critical compared to using the wRegular setup, only a few degrees change of Toe will cause a great change in subjective tweeter level.


The Narrow Room
Width /7
Length /5
The optimized low frequency speaker location
More high frequency; less toe-in / pointing more directly to the ear
Less high frequency; more toe-in
The optimized listening position
Width /7

CARE & MAINTENANCE

MAINTAINING THE PERFORMANCE
Over time a mechanical connection will loosen slightly, and will deteriorate due to atmospheric influence. To keep the optimum performance, clean and tighten the connections on a regular basis. A clean cloth slightly soaked in spirit is recommended to clean the gold plated connections and cables.

MAINTAINING THE SURFACES
Clean the lacquered and fabric covered surfaces using a clean damp cloth, or a soft brush, soaked in a light detergent solution.

CLEANING THE DRIVERS
When cleaning the speaker drivers, be sure not to apply excessive pressure, these are delicate items and bending or deforming the diaphragms will deteriorate the sonic performance, a soft brush without detergent is recommended.

TECHNICAL DATA

	PHI3 MONITOR	PHI5 FLOOR	PHI6 LCR
Construction	2 Way Impulse Optimized Bass Reflex	3 Way Added Bass Impulse Optimized Bass Reflex	2 Way Impulse Optimized Bass Reflex
Bass / Mid Drivers	1 x 150mm Dynamic linear Mid-Woofer	1 x 150mm Mid-Woofer & 2x 150mm Woofer	2 x 150mm Dynamic linear Mid-Woofer
High Freq. Driver	25 mm Dual concentric ringradiato	25 mm Dual concentric ringradiato	25 mm Dual concentric ringradiato
Frequency Response	58 - 40000	42 – 40000 Hz	58 – 40000 Hz
Impedance	4 Ohms nominal minimum 4 Ohms at 220 Hz	4 Ohms nominal minimum 3,2 Ohms at 200 Hz	4 Ohms nominal minimum 3,1 Ohms at 240 Hz
Sensitivity for 2.8V Input	86,5 dB	88,5 dB	86,5 dB
Crossover Points	2100 Hz	530 Hz & 2150 Hz	260 Hz & 2100 Hz
Size (WxHxD) mm/inch	170*330*240/ 67”*130”*95”	170*1050*270/ 67”*414”*166”	510*170*240/ 201”*67”*95”
Weight	6 Kg / 13 Lbs	17 Kg / 37 Lbs	9 Kg / 20 Lbs

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